UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,088	02/03/2004	Juan Cartos Minano	3084.021	2569

26375 7590 09/27/2007

SINSHEIMER JUHNKE LEBENS & MCIVOR, LLP
1010 PEACH STREET
P.O. BOX 31
SAN LUIS OBISPO, CA 93406

EXAMINER	
CHOI, JACOB Y	

ART UNIT	PAPER NUMBER
2885	

MAIL DATE	DELIVERY MODE
09/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/772,088	MINANO ET AL.	
	Examiner	Art Unit	
	Jacob Y. Choi	2885	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16 and 45-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,8-16 and 45-49* is/are rejected.

7)☒ Claim(s) *6 and 7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Examiner acknowledges that the applicant has amended claim 1 and newly added claims 47-49. Currently, claims 1-16 and 45-49 are pending in the application.

Specification

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

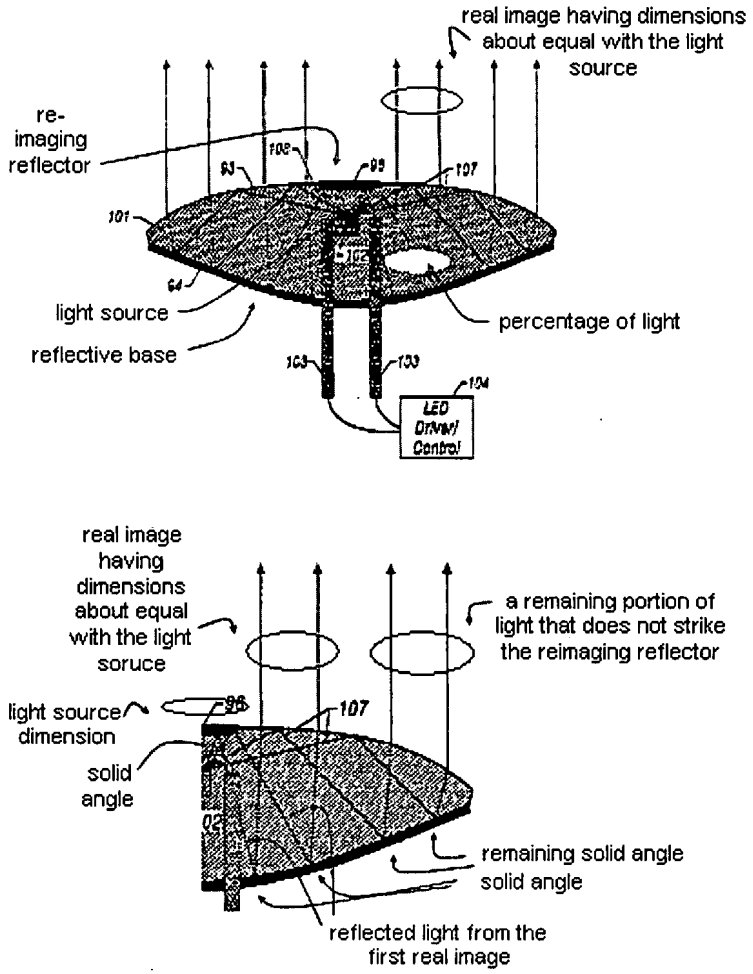
Note: Claims in a pending application should be given their broadest reasonable interpretation. *In re Pearson*, 181 USPQ 641 (CCPA 1974).

Things clearly shown in reference patent drawing qualify as prior art features, even though unexplained by the specification. *In re Mraz*, 173 USPQ 25 (CCPA 1972).

In order to given patentable weight, a functional recitations must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. *In re Fuller*, 1929 C.D. 172; 388 O.G. 279.

4. Claims **1-5, 8-16 and 45-49** are rejected under 35 U.S.C. 102(e) as being anticipated by Minano et al. (USPN 6,639,733).

Regarding claim **1**, Minano et al. discloses a reflective base (e.g., 94), a first light source (e.g., 102) positioned proximate the reflective base (e.g., 94; Figure 10), and a re-imaging reflector (e.g., 96) positioned partially about the first light source (e.g., 102), where a percentage of light emitted from the first light source (e.g., 102), and at least some of the percentage of light reflected from the re-imaging reflector (e.g., 96) to the reflective base (e.g., 94) adjacent (e.g., Figure 10) the first light source (e.g., 102), and at least some of the percentage of light reflected from the re-imaging reflector (e.g., 96) defines a first real image having dimensions about equal with dimensions of the light source (e.g., Figure 10) such that the first real image is adjacent the first light source (e.g., 102) and the reflective base (e.g., 94) reflects the light of the first real image (e.g., Figure 10), wherein the reflected light from the first real image (e.g., 96) is directed into *substantially* a same solid angle as a solid angle of *substantially* a remaining portion of light emitted from the first light source that does not strike the reimaging reflector thereby achieving etendue squeezing of the first light source (e.g., see Figure below).



Regarding claim 2, Minano et al. discloses the re-imaging reflector is *generally* a quarter ellipsoid (e.g., column 17, lines 45-60; "... *structures can form radiation into a wide diversity of shapes, such as ellipses, rectangles, crosses and other unsymmetrical shapes*") positioned on the first light source and a second focus positioned proximate the first light source at a position of the first real image.

Regarding claim 3, Minano et al. discloses the second focus is further positioned below the reflective base at a height below a surface of the reflective base equal to a

height of a light-emitting surface of the first light source from the surface (e.g., Figure 10).

Regarding claim 4, Minano et al. discloses the re-imaging reflector comprises a first sector of a first prolate ellipsoid and a second sector of a second prolate ellipsoid, where the first and second sectors joined along an axis (e.g., Figures 12-14).

Regarding claim 5, Minano et al. discloses a first percentage of the light reflected form the re-imaging reflector (e.g., 96) is reflected from the first sector (e.g., 142) to the reflective base (e.g., 143) adjacent the first light source (e.g., 144) at the first real image of the first light source (e.g., 144) adjacent the first light source on a first side of the first light source such that the reflective base reflects the light of the first real image (e.g., Figure 14), and a second percentage of the light reflected from the re-imaging reflector from the second sector (e.g., 142, opposite side of 141) to the reflective base adjacent the first light source establishing a second real image of the first light source adjacent the first light source such that the reflective base reflects the light of the second real image (e.g., Figure 14).

Regarding claim 8, Minano et al. discloses a tailored free-form exit face (e.g., 93) positioned at least partially about the light source (e.g., 102) such that the percentage of light reflected by the re-imaging reflector (e.g., 96) and light emitted from the source (e.g., 102) not reflected by the re-imaging reflector is emitted from the exit face establishing (e.g., Figure 4) an output illumination that meets a predefined prescription.

Regarding claim 9, Minano et al. discloses a lens (e.g., 101) wherein the first light source (e.g., 102) is positioned proximate the lens (e.g., 101) such that the lens receives the light from the first light source and the first real image.

Regarding claim 10, Minano et al. discloses the lens (e.g., 101) comprises the re-imaging reflector (e.g., 96), and a cavity in which the first light source (e.g., 102) is positioned.

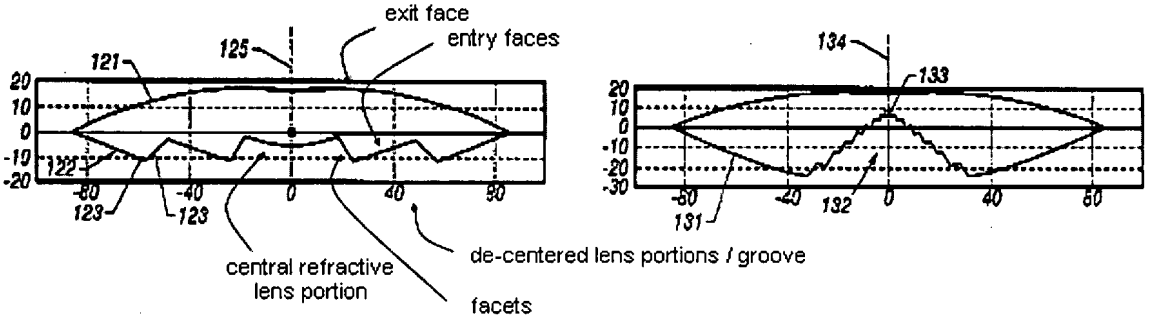
Regarding claim 11, Minano et al. discloses first reflective surface (e.g., 122) positioned to receive the light from the first light source (e.g., 133) and the first real image (e.g., Figure 12), a reflector array positioned to receive light reflected from the first reflective surface (e.g., 122), a mirrored surface positioned to receive reflected light from the reflector array, and an output surface.

Regarding claim 12, Minano et al. discloses a lens (e.g., 101) comprising, a re-imaging reflector (e.g., 102), input surface defining a cavity that receives the first light source (e.g., 102), reflective fingers (e.g., 122), reflective folding face (e.g., 123), and exit face (e.g., 123).

Regarding claim 13, Minano et al. discloses a totally internally reflecting (TIR) lens (e.g., 101) positioned proximate the first light source (e.g., 102) opposite from the re-imaging reflector (e.g., 94) such that the TIR lens receives light reflected by the first real image.

Regarding claim 14, Minano et al. discloses the TIR lens is a *de-centered* lens comprising exit face (e.g., 121), a central refractive lens, grooved facets (e.g., 122, 123, 132) having entry faces (e.g., 122), and totally internally reflecting faces positioned

relative to the grooved entry faces (e.g., Figure 14, 141, 142) to receive light entering the lens from the entry faces of the grooved facets and to reflect the received light to the exit face (e.g., Figures 12-15).



Regarding claim 15, Minano et al. discloses the TIR lens comprises a de-centered *generally* rectangular TIR lens having dimensions of a rectangular section (e.g., column 16, lines 45-60; "... *microlenses are arranged in a rectangular, square or hexagonal pattern, producing a uniform far field patter*") of length defined according to a defining complete circular TIR lens extend from a center to a peripheral edge of the defining complete circular TIR lens (e.g., Figures 10-15).

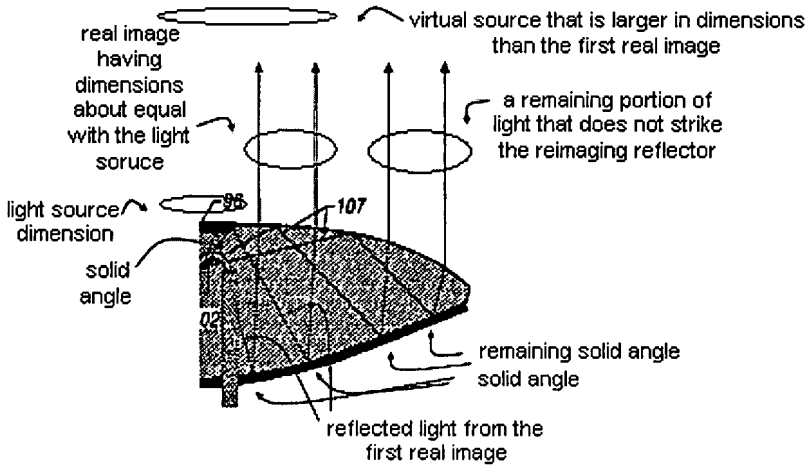
Regarding claim 16, Minano et al. discloses the first real image is positioned adjacent the light source but separated from the light source by a gap (e.g., Figure 10).

Regarding claim 45, Minano et al. discloses the reflective base (e.g., 94) reflects the light of the first real image away from (e.g., Figure 10) the re-imaging reflector (e.g., 96).

Regarding claim 46, Minano et al. discloses the re-imaging reflector (e.g., 96) is positioned partially about the first light source (e.g., 102) such that at least a secondary

percentage of light directly from the first light source is directed away (e.g., Figure 10) from the re-imaging reflector (e.g., 96).

Regarding claim **47**, Minano et al. discloses a reflective base (e.g., 94), a first light source (e.g., 102) positioned proximate the reflective base (e.g., 94), and a reimaging reflector (e.g., 96) positioned partially about the first light source (e.g., 102), where a percentage (e.g., Figure 10) of light emitted form the light source (e.g., 102) is reflected form the reimaging reflector (e.g., 96) to the reflective base (e.g., 94) adjacent the first light source (e.g., 102), and at least some of the percentage of light reflected from the reimaging reflector defines a first real image (e.g., see Figure below) having dimensions about equal with dimensions of the light source (e.g., 102) such that the first real image is adjacent the fist light source and the first light source (e.g., 102) and the first real image defining a virtual source that is larger in dimensions than the first real image (e.g., see Figure below), and the reflective base (e.g., 94) reflects the light of the first real image (e.g., see Figure below).



Regarding claim **48**, Minano et al. discloses a reflective base (e.g., 94), a first light source (e.g., 102) positioned proximate the reflective base (e.g., 94), and a reimaging reflector (e.g., 96) positioned partially about the first light source (e.g., 102), where a percentage of light emitted from the first light source (e.g., 102) is reflected from the reimaging reflector (e.g., 96) to the reflective base (e.g., 94) adjacent the first light source (e.g., 102) where at least some of the percentage of light reflected from the reimaging reflector (e.g., 96) defines a first real image (e.g., see Figure above) that is adjacent the first light source (e.g., 102) and reflected by the reflective base (e.g., 94) such that the first light source (e.g., 102) and the real image define a virtual source thereby reducing a solid angle of light emissions (e.g., see Figure above) without *substantially* increasing etendue of the first light source (e.g., 102).

Regarding claim **49**, Minano et al. discloses a reflective base (e.g., 94), a first light source (e.g., 102) positioned proximate the reflective base (e.g., 94), and a reimaging reflector (e.g., 96) positioned partially about the first light source (e.g., 102), where a percentage of the light emitted from the first light source (e.g., 102) is reflected from the reimaging reflector (e.g., 96) to the reflective base (e.g., 94) adjacent the first light source (e.g., 102) and the reflective base (e.g., 94) reflects the percentage of light reflected by the reimaging reflector (e.g., 96) such that the first light source (e.g., 102) and the percentage of light reflected by the reimaging reflector (e.g., 96) define a virtual light source (e.g., see Figure above) that has a width that is larger than a width of the first light source (e.g., 102) without substantially increasing etendue of the first light source (e.g., 102).

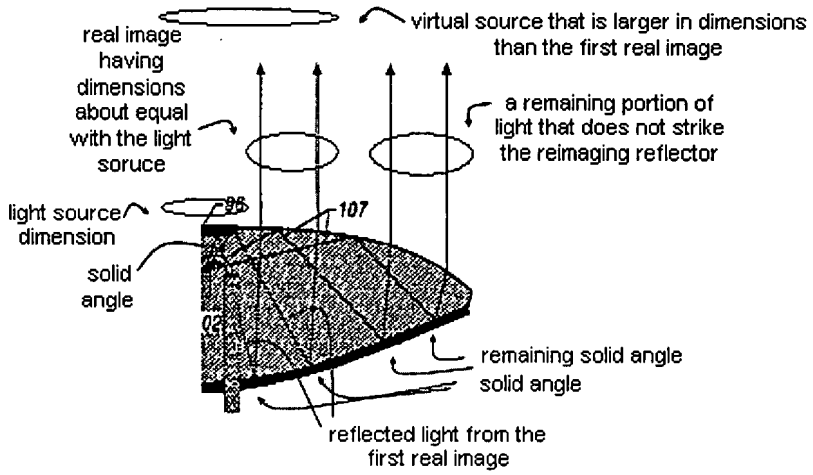
Allowable Subject Matter

5. Claims **6 and 7** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments with respect to claims 1-16, 45, and 46 have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "... *a reimaging reflector or a reflective base that in combination produce a real image having a solid of angle that is directed into substantially the same solid of angle as the solid angle of substantially the reimaging portion of light emitted form the first light source that does not strike the reimaging reflector or achieving the etendue squeezing*") are clearly shown in the prior art reference (e.g., see Figure below). Applicant is reminded that things clearly shown in reference patent drawing qualify as prior art features, even though unexplained by the specification. *In re Mraz*, 173 USPQ 25 (CCPA 1972).



In addition, currently claim(s) do not clearly distinguish over cited prior art, where claims in a pending application are given their broadest reasonable interpretation (e.g., "*real image*", "*substantially ... solid angle*", and "*etendue squeezing*"). *In re Pearson*, 181 USPQ 641 (CCPA 1974). Also, some of the functional recitations are not supported by recitation of the sufficient structure to warrant the presence of the functional language. *In re Fuller*, 1929 C.D. 172; 388 O.G. 279.

Thus, claims are properly rejected under 35 USC § 102, where Minano patent expressly describe each and every element as set forth in the claims.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Y. Choi whose telephone number is (571) 272-2367. The examiner can normally be reached on Monday-Friday (10:00-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on (571) 272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jacob Y Choi
Examiner
Art Unit 2885

JC